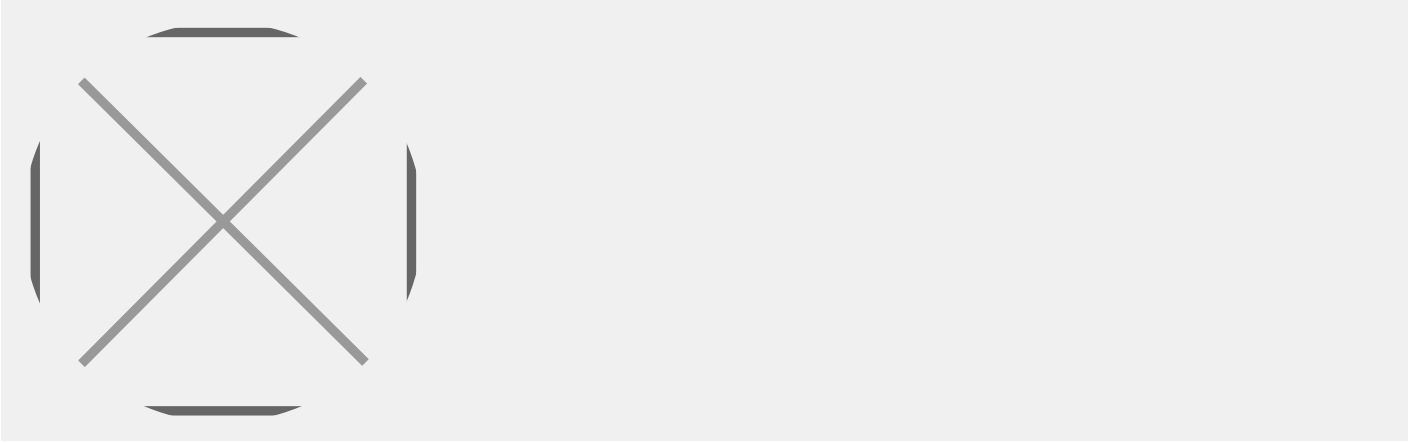
Interview: Wen-Lung Su, Chairman, Taiwan Advance Bio-Pharmaceutical Inc.



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Over the past decade since its founding, what are some of the highlights in the transformation of Taiwan Advance Bio-Pharmaceutical Inc. (TABP) into a well established company?

TABP was founded in 2000 as a spinoff of the Development Center for Biotechnology (DCB). The DCB was established in 1984 to support the development of Taiwan's biotech industry, and TABP was the culmination of 15 years of the Center's work. We were the first biotech enterprise that the Ministry of Economic Affairs had ever invested in. Today, our business encompasses the manufacture, marketing, and service of food and drug testing kits, cord blood banking, and gene examination—but increasingly, we are working on the research and development of biopharmaceuticals.

I would highlight several points in our developmental history that gave rise to our transformation as a company. Firstly, in 2003, as a first foray into biomedical services, we launched our Cord Blood Treasuring Center. We were aware that the concentration of stem cells in the cord blood of newborns is not quite sufficient to provide effective therapy to an adult. Knowing that the only way to overcome this deficiency is to boost the number of stem cells in cord blood, we installed our protein drug R&D department to work on the in-vitro development of Hematopoietic stem cells.

By 2005, TABP and our partners at Glyconex had made strong developmental progress and held an announcement campaign in Taipei International Convention Center. In 2007, we demonstrated that a direct treatment of the protein drug to animal model gave rise to very promising results in expanding the number of Hematopoietic stem cells. In 2009, we extended our successful example to other transcription factor drugs. Serial transcription factors were estimated to check their potential for development into a protein drug. These efforts have evolved into a true protein drug development platform.

In 2010, in order to further develop a protein drug product, we carried out a two-year SBIR (Small Business Innovation Research) project to set up CMC (Chemistry, Manufacturing and Controls) and CoA (Certificate of Analysis). In 2012, we also implemented a sub-sequential SBIR project to study patent layout and to analyze the market demands of our protein drug, HOXB4. After that, we licensed in important patents to make sure TABP can lead dominantly in HOXB4 commercial applications in the future.

We have been honored with the 2012 National Innovation Award, and were certified by the Ministry of Economic Affairs as a biopharmaceutical company that meets the criteria of the Biotech and New Pharmaceutical Development Act. TABP has begun to transition from a bio-service company to a biopharmaceutical company.

What challenges and opportunities do you see for TABP as it completes this transition?

Our principal challenge is the fact that, due to our small size and the fragmentation of the industry chain in Taiwan, it is difficult for us to complete a new drug development project from start to finish on our own. Fortunately, the state has established several organizations that are able to fill in gaps in the chain, and has taken action to improve the investment environment. In Taiwan, organizations such as the Taiwan Bio Industry Organization, Biotechnology and Pharmaceutical Industries Promotion Office, and DCB act as virtual managers that can connect upstream and downstream actors in the value chain.

There are also opportunities inherent in being small. In large pharmaceutical companies, it is difficult to get full support behind a new R&D project. In a smaller company, on the other hand, we can mobilize our resources much more efficiently.

Another challenge is the fact that there is nothing new under the sun. Of course, there are likely a number of companies out there that will focus on the same indications as us. However, our patent layout and research approach will ensure that our drug candidates are unique, and will heighten the barriers to competition. We can’t avoid competition altogether, but we can turn potential

competitors can turn into potential partners or buyers.

What unique points would you highlight in your commercial strategy?

Developing a novel protein drug is not an easy task. Nonetheless, protein drugs have gained great momentum worldwide because of their highly targeted mechanism of action and their strong safety profile. In recent years, the two main protein drug categories, monoclonal antibodies and cytokine agents, have come to dominate the biopharmaceutical market. As Taiwan looks to upgrade its industry standard, it has chosen protein drugs as a key area of focus—and TABP has joined the development race.

Our strategy is based on collaboration rather than competition. Our development efforts are currently focused on oncology, and today, the global cancer drug market is worth tens of billions of USD. If all players in this field adopted a competitive policy, then the current market environment—wherein the large players make billions, and the small players make very little—will never change. On the other hand, if smaller companies shift their approach and collaborate to expand the market, to the scale of hundreds of billions of USD, then these partners can share the profits from a new and larger pie.

In what ways has the field of new drug development changed over the past decade and what does this mean for TABP?

Traditionally, basic research, drug development, and clinical medicine were three separate arenas. But today, the concept of translational medicine—linking basic research directly and efficiently to clinical medicine—is becoming the key to success for new drug development. TABP has made great advances in setting up a strong translational platform. We are positioned as a moderate-sized (or perhaps ‘small’ in a global context!) pharmaceutical company that is capable of conducting basic R&D and pushing those results to the clinical stage.

Our investment approach is also quite unique among our peers in Taiwan. If we look at biotechs in this market that are on the path to new drug development, the majority invest fixed capital or are supported by wealthy sponsors. TABP is a very special case: we allocate a huge portion of our business profits to R&D. We sacrifice short-term gain to maximize overall benefit for our stockholders and to provide better treatments for cancer patients. Our R&D is supported by cash flow from drug abuse testing, food safety testing, cord blood banking and our gene examination business. Additionally, the capital we have gained from the reinvestment of our partner GlycoNex bolsters our development program.

Many biotech companies established in the same period as TABP have gone out of business. We, on the other hand, have grown from an initial capitalization of 100 million NTD, to 3 billion NTD. We attribute our success to a different approach to sustainable management.

Given the high level of competition in new drug development, what is your strategy for success?

Today, cancers have been classified into more than 20 categories. Most can be treated with chemotherapy or radiotherapy. However, these approaches are not targeted. Although they kill cancer cells, they also damage healthy somatic cells. They exert harm on the body's defense system: the white blood cell (WBC)-based immune system. After undergoing chemotherapy or radiotherapy, many patients experience a period of low WBC count. An insufficiency of WBC leads to a weakened immune system and potential pathogen infection. From time to time, patients die because of infection rather than the cancer itself.

The present drug of choice for this challenge is G-CSF, developed by Amgen. However, if chemo or radiotherapy also kills hematopoietic stem cells, then the target for G-CSF becomes limited. TABP's hematopoietic stem cell expansion factor aims to amplify the number of hematopoietic stem cells, working collaboratively with G-CSF. If we can augment the effects of G-CSF by giving it a greater target pool, the recovery of WBC becomes more efficient. In line with our strategy, our hematopoietic stem cell expansion factor is not going to compete with Amgen; rather, it is set to expand the market.

What are your thoughts on the overall biotech environment in Taiwan today, and the reported 520 percent market cap increase the sector has enjoyed over the last four years?

For many years, Taiwan's government has tried to facilitate a positive environment for the biotech industry. Although there is still much left to do, a number of significant policies have gradually taken effect. For instance, the Biotech and New Pharmaceutical Development Act encourages pharmaceutical companies to engage in the research and development of new drugs and encourages fundraising from the capital market. Many biotechs in Taiwan have entered the drug development field, and several promising drug candidates have already been announced to the public. The combination of government support and the first signs of success have led to the five-fold increase in our sector's market cap.

What is TABP's unique selling point and what are some long-term goals in mind?

Healthcare, by broad definition, includes prevention, diagnosis, treatment, nursing care, and follow up. TABP has joined the prevention and treatment aspects of the healthcare field.

Even as we begin to differentiate our business, we continue to focus on food safety. Foods are different from drugs: generally speaking, drugs are more highly regulated. The public is better informed regarding their content and safety profile. With our daily food, however, we are often unaware of dangerous components or additives, and these elements eventually accumulate in the human body, causing diseases like cancer. The extra healthcare expenses caused by these invisible factors is beyond estimation. TABP's efforts in food safety aim to provide the public safe food that is free of unwanted, harmful components. In this way, we aim to prevent disease.

TABP initially inherited its food testing techniques from the DCB. With our continuous improvement, today we have developed more than 40 test items. Our footing is in Taiwan, but we think globally: we have exported our testing kits to many foreign countries. In fact, our export sales are greater than our local sales.

In terms of treatment, I have already spoken at length regarding our drug development platform. We want to develop a new protein drug aimed at improving chemotherapy and radiotherapy, lowering the cost of healthcare and improving patients' welfare.

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